

REMARKS

The present application was filed on September 17, 1999 with claims 1 through 22. Claims 1 through 22 are presently pending in the above-identified patent application.

In the Office Action, the Examiner rejected claims 1-5 and 7-11 under 35 U.S.C. §103(a) as being unpatentable over Kleider et al. (United States Patent Number 6,487,252 B1) in view of Laroia et al. (United States Patent Number 6,628,722), rejected claims 6, 12, 17, and 22 under 35 U.S.C. §103(a) as being unpatentable over Kleider et al. and Laroia et al. in view of Shirkata (United States Patent Number 6,618,352), and rejected claims 13-16 and 18-21 under 35 U.S.C. §102(e) as being anticipated by Kleider.

Independent Claims 1, 7, 13 and 18

Independent claims 1 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kleider et al. in view of Laroia et al. and claims 13 and 18 were rejected under 35 U.S.C. §102(e) as being anticipated by Kleider. Regarding claims 1 and 7, the Examiner asserts that Kleider discloses modulating said OFDM signal in the frequency domain using adjacent sub-carriers (col. 5, lines 32-40) to produce differentially encoded symbols (col. 2, lines 38-49); and a plurality of frequency bins for storing one or more pilot tones to produce an analog signal centered at a desired carrier frequency (FIG. 1; col. 2, lines 55-60; and col. 3, lines 47-54).

In the text cited by the Examiner, Kleider teaches:

Pilot sequence generator 18 provides a plurality of pilot tones assigned to frequency bins not occupied by constellation data provided by modulator 14. *Preferably, the pilot tones provided by pilot generator 18 are provided at the same envelope value as the constellation data from modulator 14.* (Col. 2, lines 55-60; emphasis added.)

In task 108, the generated pilot tones are assigned to frequency bins. In the preferred embodiment of the present invention, a frequency bin assignment table 110, is used although other ways of assigning pilot tones to frequency bins are also suitable. *Task 112, although not performed by pilot sequence generator 18, assigns the modulator symbols, for example, provided by modulator 14 (FIG. 1) to other frequency bins not assigned to pilot tones.* (Col. 3, lines 47-54; emphasis added.)

Contrary to the Examiner's assertion, Applicants find *no* disclosure or suggestion of storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency. Independent claims 1, 7, 13, and 18 require storing said differentially encoded symbols and one or more pilot tones to produce an analog
5 signal centered at a desired carrier frequency.

Thus, Kleider et al. and Laroia et al., alone or in combination, do not disclose or suggest storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency, as required by independent claims 1, 7, 13, and 18.

10 Additional Cited References

Shirkata was also cited by the Examiner for its disclosure of an OFDM system in which the differential encoding is performed with respect to adjacent subcarriers. Shirkata does not, however, disclose or suggest *storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency*.

15 Thus, Shirkata does not disclose or suggest storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency, as required by independent claims 1, 7, 13, and 18.

Dependent Claims 2-6, 8-12, 14-17, and 19-22

20 Claims 2-6, 8-12, 14-17, and 19-22 are dependent on claims 1, 7, 13, and 18, respectively, and are therefore patentably distinguished over Kleider et al., Laroia et al., and Shirkata, alone or in combination, because of their dependency from independent claims 1, 7, 13, and 18 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

25 All of the pending claims, i.e., claims 1 through 22, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

/ Kevin M. Mason /

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